

SUSE Linux Enterprise

10 SP2

www.novell.com

September 23, 2008

Subscription Management Tool Guide



Subscription Management Tool Guide

List of Authors: Jakub Friedl

All content is copyright © Novell, Inc.

Legal Notice

This manual is protected under Novell intellectual property rights. By reproducing, duplicating or distributing this manual you explicitly agree to conform to the terms and conditions of this license agreement.

This manual may be freely reproduced, duplicated and distributed either as such or as part of a bundled package in electronic and/or printed format, provided however that the following conditions are fulfilled:

That this copyright notice and the names of authors and contributors appear clearly and distinctively on all reproduced, duplicated and distributed copies. That this manual, specifically for the printed format, is reproduced and/or distributed for noncommercial use only. The express authorization of Novell, Inc must be obtained prior to any other use of any manual or part thereof.

For Novell trademarks, see the Novell Trademark and Service Mark list <http://www.novell.com/company/legal/trademarks/tmlist.html>. * Linux is a registered trademark of Linus Torvalds. All other third party trademarks are the property of their respective owners. A trademark symbol (®, ™ etc.) denotes a Novell trademark; an asterisk (*) denotes a third party trademark.

All information found in this book has been compiled with utmost attention to detail. However, this does not guarantee complete accuracy. Neither Novell, Inc., SUSE LINUX Products GmbH, the authors, nor the translators shall be held liable for possible errors or the consequences thereof.

Contents

1	SMT Installation	1
1.1	Installation During the Initial Installation Process	1
1.2	Installation On Top of an Already Installed System	2
1.3	SMT Configuration Wizard	3
2	Configuring SMT Using YaST	5
2.1	Activating and Deactivating SMT with YaST	6
2.2	Setting NU Credentials with YaST	8
2.3	Setting SMT Database Password with YaST	9
2.4	Setting E-mail Addresses to Receive Reports with YaST	10
2.5	Setting the SMT Job Schedule with YaST	10
3	Mirroring Installation and Update Sources Using SMT	13
3.1	Getting Mirror Credentials	13
3.2	Managing Software Catalogs with SMT	14
3.3	The /srv/www/htdocs Structure	19
3.4	Using Test Environment	20
4	Managing Client Machines With SMT	21
4.1	Listing Registered Clients	21
4.2	Deleting Registrations	21
4.3	Manual Registration of Clients at Novell Customer Center	22
4.4	Scheduling Periodic Registrations of Clients at Novell Customer Center	22
5	SMT Reports	25
5.1	Report Schedule and Recipients	25
5.2	Types of SMT Reports	26
5.3	Report Output Formats and Targets	26

6	SMT Tools and Configuration Files	29
6.1	Important Scripts and Tools	29
6.2	SMT Configuration Files	37
6.3	Server Certificates	44
7	Configuring Clients to Use SMT	49
7.1	Using Kernel Parameters to Access an SMT Server	50
7.2	Configuring Clients Using AutoYaST Profile	51
7.3	Configuring Clients Using the clientSetup4SMT.sh Script	52
7.4	Registering Clients Against SMT Test Environment	53

SMT Installation

SMT is distributed as an add-on product for SUSE Linux Enterprise Server 10 SP2 system. To install it, install the SUSE Linux Enterprise Server 10 SP2 base system. You can choose to install the SMT add-on together with your base system during the initial installation process, or you can install the SMT add-on on top of an already installed base system at any later time.

1.1 Installation During the Initial Installation Process

To install SMT add-on together with your base system during the initial installation process, follow these steps:

- 1 Start SUSE Linux Enterprise Server 10 SP2 installation as usual. For more information, see the SUSE Linux Enterprise Server documentation.
- 2 To include the SMT add-on product, check the *Include Add-On Products from Separate Media* option in the *Installation Mode* dialog in the *System Analysis* step and click *Next*.
- 3 In the next dialog, click *Add* and, if you are installing SMT from a CD medium, select *CD* as the source type. If you are installing from a different source, such as NFS or HTTP, choose the appropriate source type. Click *Next*.

- 4 If you are installing from CD, insert the SMT add-on product CD. If you are installing from a different source, provide the necessary source. Click *Continue*.
- 5 Confirm the SMT license agreement and click *Next*.
- 6 The SMT add-on product is displayed in the overview. Continue with the installation as usual. Make sure, that the *SMT: Subscription Management Tool for SLE* installation pattern is selected automatically and do not remove it.
- 7 A two-step *SMT Configuration Wizard* is shown during the final steps of the installation workflow. Configure SMT as described in [Section 1.3, “SMT Configuration Wizard”](#) (page 3) and continue with the SUSE Linux Enterprise Server installation as usual.

1.2 Installation On Top of an Already Installed System

To install SMT on top of an already installed base system, follow these steps:

- 1 Start YaST and select *Software > Add-On Product*.
- 2 If you are installing SMT from a CD medium, select *CD* as the source type. If you are installing from a different source, such as NFS or HTTP, choose the appropriate source type. Click *Next*.
- 3 If you are installing from CD, insert the SMT add-on product CD. If you are installing from a different source, provide the necessary source. Click *Continue*.
- 4 Confirm the SMT license agreement and click *Next*.
- 5 Click *Accept* to install the *SMT: Subscription Management Tool for SLE* pattern.
- 6 The *SMT Configuration Wizard* is launched. See [Section 1.3, “SMT Configuration Wizard”](#) (page 3).

1.3 SMT Configuration Wizard

During the installation of SMT the two-step *SMT Configuration Wizard* is launched, irrespective of the used installation method. Configure SMT using this wizard. However, you will be able to change the configuration later using the YaST SMT Configuration module.

- 1 The *Enable Subscription Management Tool service (SMT)* option is checked by default. Uncheck it only if you want to disable the installed SMT.

If the firewall is enabled, check *Open Port in Firewall* to allow access to the SMT service from remote computers.

Enter your Novell Customer Center mirroring credentials in *NU User* and *NU Password*. NU stands for Novell Update. If you do not know your Novell Customer Center credentials, refer to [Section 3.1, “Getting Mirror Credentials”](#) (page 13). Test the entered credentials by pressing the *Test* button. SMT will connect to the Customer Center server using the provided credentials and download some testing data.

Enter the e-mail address you have used for the Novell Customer Center registration into *NCC E-mail Used for Registration*.

Your SMT Server URL should contain the URL of the SMT server being configured. It is filled in automatically.

Press *Next* to continue to the second configuration step.

- 2 For security reasons, SMT uses a special user in the database. Set the *SMT Database Password* in the respective fields. The password should not be empty.

Enter all e-mail addresses SMT should send reports to using the *Add* button. You are also able to *Edit* or *Delete* any incorrect or needless addresses.

Press *Next*.

- 3 If the current MySQL root password is empty—as in any freshly installed system—you will be asked to enter a *New MySQL Root Password*.

Configuring SMT Using YaST

SMT can be activated and configured using a graphical interface. A special YaST module has been created for this purpose. The YaST SMT Configuration module can be used to configure mirroring credentials, SMT database passwords and e-mail addresses to send SMT reports to, or to set the SMT job schedule, and activate or deactivate the SMT service.

To configure SMT using the YaST SMT Configuration module, follow these steps:

- 1 To start YaST SMT module with text (ncurses) interface, run the `yast smt` command as root.

To start the YaST SMT module with graphical interface, run `yast2 smt` as root or open YaST Control Center and select *SMT Configuration* in the *Network Services* section.

- 2 To activate SMT, check the *Enable Subscription Management Tool Service (SMT)* option in the *Customer Center Access* tab. If you want to disable SMT, uncheck this option. For more information about activating SMT using YaST, see [Section 2.1, “Activating and Deactivating SMT with YaST”](#) (page 6)
- 3 In the *Customer Center Access* tab, set and test credentials for the NU (Novell Update) service. Correct credentials are necessary to enable mirroring from NU and determine the products that should be mirrored. Also set the e-mail address used for the registration and the URL of your SMT server. For more information, see [Section 2.2, “Setting NU Credentials with YaST”](#) (page 8).

- 4 In the *Database and Reporting* tab, set the password for the SMT user in the MySQL database and enter the e-mail addresses where reports should be sent to. For more information, see [Section 2.3, “Setting SMT Database Password with YaST”](#) (page 9) and [Section 2.4, “Setting E-mail Addresses to Receive Reports with YaST”](#) (page 10).
- 5 In the *Scheduled SMT Jobs* tab, set a schedule of periodic SMT jobs, such as synchronization of updates, Novell Customer Center registration, or SMT report generation. For more information, see [Section 2.5, “Setting the SMT Job Schedule with YaST”](#) (page 10).
- 6 If satisfied with the configuration, click *Finish*. YaST adjusts the SMT configuration and starts or restarts necessary services.

If you want to abort the configuration and cancel any changes, click *Abort*.

NOTE

When the YaST SMT module applies configuration changes, it checks for the existence of the common server certificate. If the certificate does not exist, you will be asked whether the certificate should be created and the YaST CA Management module will be started, if you approve.

2.1 Activating and Deactivating SMT with YaST

YaST provides an easy way to activate or deactivate the SMT service. To activate SMT service using YaST, follow these steps:

- 1 Open the *Customer Center Access* tab of the YaST SMT Configuration module.
- 2 Check the *Enable Subscription Management Tool service (SMT)* option.

NOTE

Note that if not already configured, mirroring credentials should be configured before activating SMT. For more information about how to

set mirroring credentials using YaST, see [Section 2.2, “Setting NU Credentials with YaST”](#) (page 8).

3 Click *Finish* to apply the changes and leave YaST SMT Configuration module.

To deactivate SMT service using YaST, follow these steps:

1 Open the *Customer Center Access* tab of the YaST SMT Configuration module.

2 Uncheck the *Enable Subscription Management Tool service (SMT)* option.

3 Click *Finish* to apply the changes and leave YaST SMT Configuration module.

When activating SMT, the following important operations are performed by YaST:

- The Apache configuration is changed by creating symbolic links in the `/etc/apache2/conf.d/` directory. Links to the `/etc/smt.d/nu_server.conf` and `/etc/smt.d/smt_mod_perl.conf` files are created there.
- The Apache Web server is started or reloaded if already running.
- The MySQL server is started or reloaded if already running. If it does not exist, `smt` user and necessary tables in the database are created.
- The schema of the SMT database is checked. If the database schema is obsolete, the SMT database is upgraded to conform to the current schema.
- Cron is adjusted by creating a symbolic link in the `/etc/cron.d/` directory. A link to the `/etc/smt.d/novell.com-smt` file is created there.

When deactivating SMT, the following important operations are performed by YaST:

- Symbolic links created upon SMT activation in the `/etc/apache2/conf.d/` and `/etc/cron.d/` directories are deleted.
- The Cron, Apache Web and MySQL servers are reloaded. Neither Apache nor MySQL are stopped, because they may be used for other purposes than the SMT service.

2.2 Setting NU Credentials with YaST

YaST provides a comfortable interface to set and test NU credentials and the URL of the NU service. To do so, follow these steps:

Figure 2.1 *Setting NU Credentials with YaST*

The screenshot shows the YaST SMT Configuration module with the 'Customer Center Access' tab selected. On the left, a sidebar contains instructions for setting credentials and firewall settings. The main panel has three tabs: 'Customer Center Access', 'Database and Reporting', and 'Scheduled SMT Jobs'. Under 'Customer Center Access', there are checkboxes for 'Enable Subscription Management Tool Service (SMT)' (checked) and 'Open Port in Firewall' (unchecked). Below these, it says 'Firewall is disabled'. There are input fields for 'NU User' (containing '289740') and 'NU Password' (containing '*****'). A 'Test...' button is below the password field. At the bottom, there are input fields for 'NCC E-mail Used for Registration' (containing 'user@example.com'), 'Your SMT Server URL' (containing 'http://smt.example.com/'), and buttons for 'Back', 'Abort', and 'Finish'.

Customer Center Access
Enter the credentials for Novell Updates (NU) here.

User and Password is needed for Novell Customer Center authentication. To test the credentials you entered, click **Test SMT** then connects to the Customer Center server for authentication and download of test data.

E-mail should be the one you used to register to NCC.

Firewall Settings
To open the firewall to allow access to the service from remote computers, set **Open Port in Firewall**. This option is available only if the firewall is enabled.

NU Configuration

Customer Center Access | Database and Reporting | Scheduled SMT Jobs

☒ Enable Subscription Management Tool Service (SMT)
☐ Open Port in Firewall
Firewall is disabled

NU User
289740

NU Password

Test...

NCC E-mail Used for Registration
user@example.com

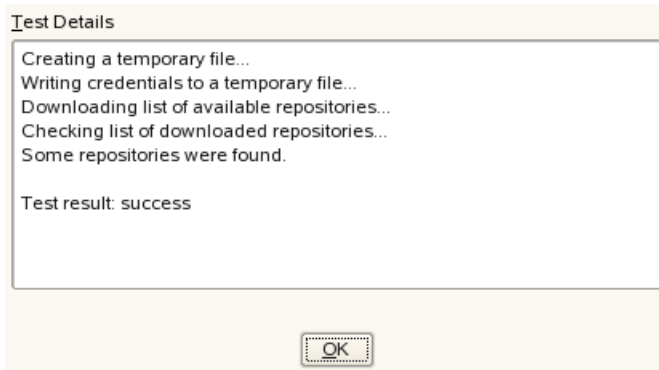
Your SMT Server URL
http://smt.example.com/

Back | Abort | Finish

- 1 Open the *Customer Center Access* tab of the YaST SMT Configuration module. If the credentials have been already set using YaST or the `/etc/smt.conf` configuration file, they appear in the dialog. Otherwise, the *NU User* and *NU Password* fields are blank.
- 2 If you do not have your credentials, visit Novell Customer Center to obtain them. For more information, see [Section 3.1, “Getting Mirror Credentials”](#) (page 13).
- 3 Enter your NU username in *NU User* and the corresponding password in *NU Password*.
- 4 Press *Test* to check the credentials. YaST will try to download a list of available repositories using the provided credentials. If the test succeeded, the last line of

the test results will read `Test result: success`. If the test fails, check the provided credentials and try again.

Figure 2.2 *Successful Test of NU Credentials*



- 5 Enter the *NCC E-mail Used for Registration*. This should be the address you used to register to Novell Customer Center.

Enter *Your SMT Server URL* if it has not been detected automatically.

- 6 Press *Finish* or continue with other configurations.

2.3 Setting SMT Database Password with YaST

For security reasons, SMT uses its own user in the database. YaST provides a comfortable interface for setting up or changing the SMT database password. To set or change the SMT database password using YaST follow these steps:

- 1 Open the *Database and Reporting* tab of the YaST SMT module.
- 2 Enter the *SMT Database Password for smt User*. Confirm the password by reentering it and press *Finish* or continue with other configurations.

2.4 Setting E-mail Addresses to Receive Reports with YaST

YaST SMT Configuration module provides a comfortable interface for setting up a list of e-mail addresses SMT reports will be sent to. To edit the list of addresses to receive the reports, follow these steps:

- 1 Open the *Database and Reporting* tab of the YaST SMT Configuration module.
- 2 The list of e-mail addresses to send reports to is shown in the table. You can *Add*, *Edit*, or *Delete* addresses using the respective buttons.
- 3 Press *Finish* or continue with other configurations.

The comma separated list of addresses SMT reports should be sent to is written to the `reportEmail` option of the `/etc/smt.conf` configuration file.

2.5 Setting the SMT Job Schedule with YaST

The YaST SMT Configuration module provides a comfortable interface to schedule periodical SMT jobs. YaST uses `cron` to schedule configured jobs. If needed, `cron` can be used directly. Three types of periodical jobs can be set:

Synchronization of Updates

Synchronizes with Novell Customer Center, updates catalogs, and downloads new updates.

Report Generation

Generates and sends SMT reports to addresses defined in [Section 2.4, “Setting E-mail Addresses to Receive Reports with YaST”](#) (page 10).

NCC Registration

Registers all clients to Novell Customer Center that are not already registered or that changed their data since the last registration.

Figure 2.3 Setting SMT Job Schedule with YaST

Editing a SMT Scheduled Job

Frequency: Periodically Job to Run: NCC Registration

Job Start Time

Day of the Week: Sunday Day of the Month: 1

Every H-th Hour: 0 Every M-th Minute: 15

OK Cancel

To configure the schedule of SMT jobs using YaST, follow these steps:

- 1 Open the *Scheduled SMT Jobs* tab of the YaST SMT Configuration module. The table contains a list of all scheduled jobs, their type, frequency, date, and time to run. You can add, delete or edit these scheduled events.
- 2 If you want to add a scheduled SMT job, press *Add*. The *Adding New SMT Scheduled Job* dialog opens.

Choose the synchronization job to schedule. You can choose between *Synchronization of Updates*, *Report Generation*, and *NCC Registration*.

Choose the *Frequency* of the new scheduled SMT job. Jobs can be performed *Daily*, *Weekly*, *Monthly*, or *Periodically* (every n-th hour or every m-th minute).

Set the *Job Start Time* by entering *Hour* and *Minute*. In case of periodical frequency, enter the respective periods. For weekly and monthly schedules, select *Day of the Week* or *Day of the Month*.

Press *Add*.

- 3 If you want to edit a scheduled SMT job, for example, change its frequency, time, or date, select the job in the table and press *Edit*. Then change any parameters as if you were creating a new schedule and press *OK*.

- 4** If you want to cancel a scheduled job and delete it from the table, select the job in the table and press *Delete*.
- 5** Press *Finish* to apply the settings and quit the YaST SMT Configuration module or continue with other configurations.

Mirroring Installation and Update Sources Using SMT

SMT provides the possibility to mirror installation and update sources locally and to bypass per-machine downloads and the bandwidth charges that go with it.

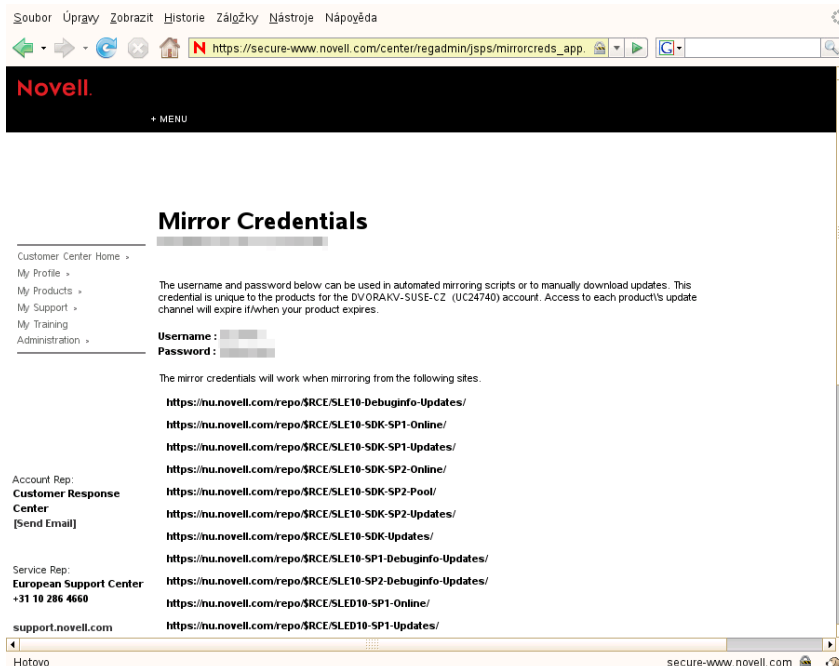
3.1 Getting Mirror Credentials

Before creating local mirrors of the repositories, you need to have proper mirror credentials. You can get these credentials from the Novell Customer Center by following these steps:

- 1 Visit Novell Customer Center at <http://www.novell.com/center> and log in.
- 2 Click on *My Products*. The list of product families is shown.
- 3 Expand any product family by clicking on its name. You can also expand all product families by clicking on the icon showing the arrow with two converse arrowheads (with the *Expand All Product Families* tooltip). Products in the expanded families are shown.
- 4 Double click on any specific product in the list to show detailed information about the product.
- 5 In the *Downloads* section, click on the *Mirror Credentials* link.

- 6 The credentials and mirror sites will be listed. These values are the same for all users and subscriptions for a specific company.

Figure 3.1 *NU Credentials in Novell Customer Center*



The obtained credentials should be set in the YaST SMT module or manually written in the `/etc/smt.conf` file. For more information about configuring NU credentials using YaST, see [Chapter 2, Configuring SMT Using YaST](#) (page 5). For more information about the `/etc/smt.conf` file, see [Section 6.2.1, “/etc/smt.conf”](#) (page 37)

3.2 Managing Software Catalogs with SMT

This section describes tools and procedures for viewing information about software catalogs available through SMT, configuring these catalogs and setting new custom catalogs.

3.2.1 Updating the local SMT database

The local SMT database needs to be updated periodically with the information downloaded from Novell Customer Center. These periodical updates can be configured with YaST SMT Configuration module, as described in [Section 2.5, “Setting the SMT Job Schedule with YaST”](#) (page 10).

To update the SMT database manually, use the `smt-ncc-sync` command. For more information about the `smt-ncc-sync` command, see [Section “smt-ncc-sync”](#) (page 33).

3.2.2 Enabled Catalogs and Catalogs that Can Be Mirrored

The database installed with SMT contains information about all software catalogs available on Novell Customer Center. However, the used mirror credentials determine which catalogs can really be mirrored. For more information about getting and setting mirror credentials, see [Section 3.1, “Getting Mirror Credentials”](#) (page 13).

The mirrorability of catalogs is determined by fetching <https://nu.novell.com/repo/repoindex.xml> using the provided mirror credentials. Catalogs that can be mirrored have the `MIRRORABLE` flag set in the catalogs table in the SMT database.

The fact that a catalog can be mirrored does not mean that it has to be mirrored. Only catalogs with the `DOMIRROR` flag set in the SMT database will be mirrored. For more information about setting which catalogs should be mirrored, see [Section 3.2.4, “Selecting Catalogs to be Mirrored”](#) (page 16).

3.2.3 Getting Information About Catalogs

Use the `smt-catalogs` command to list available software catalogs and additional information. Using this command without any options lists all available catalogs, including catalogs that cannot be mirrored. In the first column, the enabled catalogs (catalogs set to be mirrored) are marked with `Yes`. Disabled catalogs are marked with `No`. The other columns show ID, type, name, target, and description of the listed catalogs. The last column shows whether the catalog can be mirrored.

Use the `-verbose` option, to get additional information as the source URL of the catalog and the path it will be mirrored to.

The catalog listing can be limited to only catalogs that can be mirrored or to enabled catalogs. To list only catalogs that can be mirrored, use the `-m` or `--only-mirrorable` option: `smt-catalogs -m`.

To list only enabled catalogs, use the `-o` or `--only-enabled` option: `smt-catalogs -o`.

Example 3.1 Listing All Enabled Catalogs

```
tux:~ # smt-catalogs -o
```

Mirror?	ID	Type	Name	Target	Description	Can be Mirrored
Yes	6	nu	SLES10-SP2-Online	sles-10-i586	SLES10-SP2-Online for sles-10-i586	Yes
Yes	7	nu	SLES10-SP2-Online	sles-10-ia64	SLES10-SP2-Online for sles-10-ia64	Yes
Yes	8	nu	SLES10-SP2-Online	sles-10-ppc	SLES10-SP2-Online for sles-10-ppc	Yes
Yes	9	nu	SLES10-SP2-Online	sles-10-s390x	SLES10-SP2-Online for sles-10-s390x	Yes
Yes	10	nu	SLES10-SP2-Online	sles-10-x86_64	SLES10-SP2-Online for sles-10-x86_64	Yes
Yes	11	nu	SLES10-SP2-Updates	sles-10-i586	SLES10-SP2-Updates for sles-10-i586	Yes
Yes	12	nu	SLES10-SP2-Updates	sles-10-ia64	SLES10-SP2-Updates for sles-10-ia64	Yes
Yes	13	nu	SLES10-SP2-Updates	sles-10-ppc	SLES10-SP2-Updates for sles-10-ppc	Yes
Yes	14	nu	SLES10-SP2-Updates	sles-10-s390x	SLES10-SP2-Updates for sles-10-s390x	Yes
Yes	15	nu	SLES10-SP2-Updates	sles-10-x86_64	SLES10-SP2-Updates for sles-10-x86_64	Yes

It is also possible to list only catalogs with a particular name or to show information about a catalog with a particular name and target. To list catalogs with a particular name, use the `smt-catalogs catalog_name` command. To show information about a catalog with a particular name and target, use the `smt-catalogs catalog_name target` command.

3.2.4 Selecting Catalogs to be Mirrored

Only enabled catalogs can be mirrored. In the database, the enabled catalogs have the `DOMIRROR` flag set. Catalogs can be enabled or disabled using the `smt-catalogs` script.

To enable one or more catalogs, follow these steps:

- 1 If you want to enable all catalogs that can be mirrored or just choose one catalog from the list of all catalogs, run the `smt-catalogs -e` command.

You are able to limit the list of catalogs by using the respective options. To limit the list to only catalogs that can be mirrored, use the `-m` option: `smt-catalogs`

`-m -e`. To limit the list to only catalogs with a particular name, use the `smt-catalogs -e catalog_name` command. To list only a catalog with a particular name and target, use the command `smt-catalogs -e catalog_name target`.

If you want to enable all catalogs belonging to a certain product, use the `--enable-by-prod` or `-p` option followed by the name of the product and, optionally, its version, architecture, and release: `smt-catalogs -p product[, version[, architecture[, release]]]`. For example, to enable all catalogs belonging to SUSE Linux Enterprise Server 10 SP2 for PowerPC architecture, use the `smt-catalogs -p SUSE-Linux-Enterprise-Server-SP2,10,ppc` command. The list of known products can be obtained with the `smt-list-products` command.

- 2 If more than one catalogs is listed, choose the one you want to enable by specifying its ID listed in the catalog table and pressing Enter. If you want to enable all the listed catalogs, use `a` and press Enter.

To disable one or more catalogs, follow these steps:

- 1 If you want to disable all enabled catalogs or just choose one catalog from the list of all catalogs, run the `smt-catalogs -d` command.

If you want to choose the catalog to be disabled from a shorter list, or if you want to disable all catalogs from a limited group, you can use any of the available options to limit the list of the catalogs. To limit the list to only enabled catalogs, use the `-o` option: `smt-catalogs -o -d`. To limit the list to only catalogs with a particular name, use the `smt-catalogs -d catalog_name` command. To list only a catalog with a particular name and target, use the `smt-catalogs -d catalog_name target` command.

- 2 If more than one catalogs is listed, choose which one you want to disable by specifying its ID listed in the catalog table shown and pressing Enter. If you want to disable all the listed catalogs, use `a` and press Enter.

3.2.5 Mirroring Custom Catalogs

It is possible to mirror catalogs that are not available at the Novell Customer Center—custom catalogs—using SMT. Use the `smt-setup-custom-catalogs` script for this purpose. Custom catalogs can also be deleted.

To set up a custom catalog to be available through SMT, follow these steps:

- 1 If you do not know the ID of the product the new catalogs should belong to, use `smt-list-products` to get the ID. For the description of the `smt-list-products`, see [Section “smt-list-products”](#) (page 31).
- 2 Run the `smt-setup-custom-catalogs --productid product_id --name catalog_name --exturl catalog_url` command, where *product_id* is the ID of the product the catalog belongs to, *catalog_name* represents the name of the catalog and *catalog_url* is the URL the catalog is available at. In case the added catalog should be available for more than one product, specify the IDs of all products that should use the added catalog.

For example, to set My Catalog available at `http://example.com/My_Catalog` to the products with the IDs 423, 424, and 425, use the following command: `smt-setup-custom-catalogs --productid 423 --productid 424 --productid 425 --name 'My_Catalog' --exturl 'http://example.com/My_Catalog'.`

NOTE: Mirroring Unsigned Catalogs

In its default configuration, SUSE Linux Enterprise 10 does not allow the use of unsigned repositories. Therefore, if you want to mirror unsigned repositories and use them on client machines, you have to allow this explicitly by executing the following command on the client machines:

```
rug set security-level checksum
```

To remove an already set custom catalog from the SMT database, use `smt-setup-custom-catalogs --delete ID`, where *ID* represents the ID of the catalog to be removed.

3.2.6 Mirroring SUSE Linux Enterprise Server 9 Repositories

For mirroring old style update repositories which were used for SUSE Linux Enterprise Server 9 and similar products, use a special command: `smt-mirror-sle9`. This script mirrors from the `https://you.novell.com` server.

The `smt-mirror-sle9` script does not store information about sources to be mirrored in the SMT database. It only uses the configuration from the `/etc/smt.conf` file. The configuration of `smt-mirror-sle9` is described in [Section “smt-mirror-sle9 Sections of /etc/smt.conf”](#) (page 41).

The `smt-mirror-sle9` command uses `wget` to mirror sources. Therefore, you can exclude anything you do not want to be mirrored by adding the `exclude_directories` option to the `/root/.wgetrc` configuration file. For more information about `wget` and `/root/.wgetrc`, see `man 1 wget`.

3.3 The /srv/www/htdocs Structure

The path to the directory containing the mirror is set by the `MirrorTo` option in the `/etc/smt.conf` configuration file. For more information about `/etc/smt.conf`, see [Section 6.2.1, “/etc/smt.conf”](#) (page 37). If the `MirrorTo` option is not set to the Apache `htdocs` directory `/srv/www/htdocs/`, links should be created manually like this: `/srv/www/htdocs/repo/$RCE` should point to `/MirrorTo/repo/$RCE/`, and `/srv/www/htdocs/repo/RPMD` should point to `/MirrorTo/repo/RPMD/`. Here, `/MirrorTo` is the path set in the `MirrorTo` option.

For example, if the `MirrorTo` is set to `/space/MIRRORDATA/`:

```
srv64:~ # 1 /srv/www/htdocs/repo/
insgesamt 16
drwxr-xr-x 2 root root 128 2008-01-18 14:00 ./
drwxr-xr-x 4 root root 128 2008-01-17 17:14 ../
lrwxrwxrwx 1 root root 27 2008-01-11 15:17 $RCE ->
/space/MIRRORDATA/repo/$RCE/
-rw-r--r-- 1 root root 14854 2008-01-21 12:36 repoindex.xml
lrwxrwxrwx 1 root root 26 2008-01-11 15:37 RPMD ->
/space/MIRRORDATA/repo/RPMD/
```

The links can be created using the `ln -s` command, for example: `ln -s '/MirrorTo/repo/$RCE/' '/srv/www/htdocs/repo/$RCE'`

3.4 Using Test Environment

It is possible to mirror catalogs to a test environment instead of mirroring them the production environment. The test environment can be used with a limited number of client machines before the tested catalogs are moved to the production environment. The test environment can be run on the main SMT server, no special server is needed for that.

The testing environment uses the same structure as the production environment, but it is located in the `/srv/www/htdocs/testing/` subdirectory.

To mirror to the testing environment, set the `MirrorTo` option in the `/etc/smt.conf` file accordingly. If your standard mirror directory is located in the default `/srv/www/htdocs/` directory, set the `MirrorTo` to `/srv/www/htdocs/testing`. For more information about the `MirrorTo` option and the `/etc/smt.conf` file, see [Section 6.2.1, “/etc/smt.conf”](#) (page 37).

To register a client in the testing environment, modify the `/etc/suseRegister.conf` on the client machine by setting:

```
register = command=register&testenv=1
```

To move the testing environment to the production environment, manually copy or move it to the place of the production environment using the `cp -a` or `mv` command.

Managing Client Machines With SMT

SMT provides the possibility to register client machines on Novell Customer Center. Client machines must be configured to be able to use SMT. For information about configuring clients to be able to use SMT, see [Chapter 7, Configuring Clients to Use SMT](#) (page 49).

4.1 Listing Registered Clients

To list client machines registered at SMT, use the `smt-list-registrations` command. The following information is listed for each client: its *Unique ID*, *Hostname*, date and time of *Last Contact* with the SMT server, and the Software *Product* the client uses.

4.2 Deleting Registrations

To delete a registration from SMT and Novell Customer Center, use the `smt-delete-registrations -g Client_ID` command. To delete multiple registrations, the option `-g` can be used several times.

The ID of the client machine to be deleted can be determined from the output of the `smt-list-registrations` command.

4.3 Manual Registration of Clients at Novell Customer Center

The `smt-register` command registers clients at Novell Customer Center. All clients that are currently not registered or whose data has changed since the last registration are registered.

To register clients whose registration has failed, use the `--reseterror` option. This option resets the NCC registration error flag and tries to submit failed registrations again.

4.4 Scheduling Periodic Registrations of Clients at Novell Customer Center

YaST SMT Configuration module allows easy scheduling of client registrations. In the default configuration, registrations are scheduled to repeat every 15 minutes. To change the frequency of registrations or to create a new registration schedule, follow these steps:

- 1 Start YaST *SMT Configuration* module (`yast2 smt`).
- 2 Go to the *Scheduled SMT Job*.
- 3 Select any *NCC Registration* job and click *Edit* if you want to change its schedule.

To create a new registration schedule, click *Add* and select *NCC Registration* as *Job to Run*.

- 4 Choose the *Frequency* of the scheduled SMT job. Jobs can be performed *Daily*, *Weekly*, *Monthly*, or *Periodically* (every n-th hour or every m-th minute).

Set the *Job Start Time* by entering *Hour* and *Minute*, or, in case of periodical frequency, the respective periods. For weekly and monthly schedules, select the *Day of the Week* or the *Day of the Month* the mirroring should occur.

NOTE: Lowest Registration Frequency

Do not set the frequency lower than 10 minutes, because the maximal value of the `rndRegister` is 450 (7.5 minutes). If the frequency is lower, it may occur that the started process is still sleeping when the next process starts. In this case, the second request will exit.

- 5 Click either *OK* or *Add* and *Finish*.

You will find more information about the YaST SMT Configuration module in [Chapter 2, *Configuring SMT Using YaST*](#) (page 5). Scheduling of SMT jobs in general is covered in [Section 2.5, “Setting the SMT Job Schedule with YaST”](#) (page 10)

YaST uses `cron` to schedule Novell Customer Center registrations and other SMT jobs. If you do not want to use YaST, you can use `cron` directly.

To disable automatic registration, change the `forwardRegistration` value in the `[LOCAL]` section of the `/etc/smt.conf` configuration file to `false`.

SMT Reports

SMT provides the possibility to generate reports based on SMT and Novell Customer Center data. Generated reports contain statistics of the registered machines and products used and of the active, expiring, or missing subscriptions. If the number of registered machines and products exceeds the number of available subscriptions, warnings are given.

NOTE: Assignment of Reports

If you are using more than one SMT server in your environment, generated reports may not represent all of the SMT servers or machines in your environment. For the complete statistics of all your registered machines, refer to the information in the Novell Customer Center.

5.1 Report Schedule and Recipients

Generated SMT reports can be sent to a defined list of e-mail addresses periodically. To create or edit the list of e-mail addresses to send reports to, and to set the frequency of the reports, use the YaST SMT Configuration module. How to configure the list of addresses to send SMT reports to is described in [Section 2.4, “Setting E-mail Addresses to Receive Reports with YaST”](#) (page 10). Configuration of the report schedule is described in [Section 2.5, “Setting the SMT Job Schedule with YaST”](#) (page 10).

The list of e-mail addresses to send reports to can also be edited manually in the `reportEmail` option of the `/etc/smt.conf` configuration file. For more information about editing the list of addresses directly, see [Section “\[REPORT\] Section of](#)

[/etc/smt.conf](#)” (page 40). To set the frequency of reports manually, you can directly edit the `/usr/lib/SMT/bin/smt-gen-report` line(s) of the crontab in `/etc/cron.d/novell.com-smt`. For more information about the crontab format, see `man 5 crontab`.

Reports, including those created as a scheduled SMT job, are created by the `smt-report` command. This command has various parameters. To edit parameters used with scheduled commands, edit the `/etc/smt.d/smt-cron.conf` configuration file. For more information, see [Section 6.2.2, “/etc/smt.d/smt-cron.conf”](#) (page 43).

5.2 Types of SMT Reports

Two types of reports can be created with the `smt-report` command:

`--local`

If the `--local` option is used, the created report is based only on local SMT data.

`--ncc`

If the `--ncc` option is used, the created report is based on Novell Customer Center data.

If neither `--local` nor `--ncc` is used, the type of report is determined by the `forwardRegistration` in the `/etc/smt.conf` configuration file. If the option is set to `true`, the report is based on Novell Customer Center data. If it is set to `false`, the report is based on local SMT data.

If you are creating a report based on local SMT data and you do not want local data to be synchronized with the Novell Customer Center at all, use the `--nonccsync` option together with `--local` option.

5.3 Report Output Formats and Targets

SMT reports can be printed to the standard output, exported to one or multiple files (in CVS format) as well as mailed to the defined list of e-mail addresses. Use the following options for the `smt-report` command:

`--quiet` or `-q`

Suppress output to STDOUT and run `smt-report` in quiet mode.

`--file` or `-F`

Export report to one or several files. By default, the report will be written to a single file rendered as tables. Optionally, the filename or whole path may be specified after the parameter: `--file filename`. If no filename is specified, a default filename containing a timestamp is used. However, SMT will not check if the file or files already exist.

In CSV (Comma-Separated Value) mode the report will be written to multiple files, therefore the specified filename will expand to `[path/]filename-reportname.extension` for every report.

`--csv` or `-c`

The report will be exported to multiple files in CSV format. The first line of each *.csv file consists of the column names, the data starts on line two. The `--csv` parameter should only be used together with the `--file` parameter. If the specified filename contains `.csv` as extension, the report format will be CSV (as if the `--csv` parameter was used).

`--mail` or `-m`

Activate mailing of the report to the addresses configured with the YaST SMT Configuration module and written in `/etc/smt.conf`. The report will be rendered as tables.

`--attach` or `-a`

Attach the report to the mails in CSV format. This option should only be used together with the `--mail` option.

NOTE: Disabling Sending Attachments

If you want to disable sending CSV attachments with report mails, edit the `/etc/smt.d/smt-cron.conf` configuration file as follows: remove the `--attach` option from the `REPORT_PARAMS` value. The default line reads: `REPORT_PARAMS="--mail --attach -L /var/log/smt-report.log"`. To disable CSV attachments, change it to: `REPORT_PARAMS="--mail -L /var/log/smt-report.log"`.

If you have disabled CSV attachments but need them occasionally, you can send them manually with the `smt-report --mail --attach -L /var/log/smt-report.log` command.

SMT Tools and Configuration Files

This chapter describes the most important scripts and configuration files shipped with SMT.

6.1 Important Scripts and Tools

There are two important groups of SMT commands: The `smt` command with its subcommands is used for managing mirroring of updates, registration of clients, and reporting. The `rcsmt` script is used for starting, stopping, restarting SMT services, and for checking their status.

6.1.1 `/usr/sbin/smt` Commands

The main command to manage the SMT is `smt (/usr/sbin/smt)`. The `smt` command should be used together with various subcommands described in this section. If the `smt` command is used alone, it prints out a list of all available subcommands. To get help for individual subcommands, use `smt subcommand --help`.

The following subcommands are available:

- `smt-catalogs`
- `smt-delete-registration`
- `smt-list-products`

- `smt-list-registrations`
- `smt-mirror`
- `smt-ncc-sync`
- `smt-register`
- `smt-report`
- `smt-setup-custom-catalogs`
- `smt-mirror-sle9`

There are two syntax types you can use with the `smt` command: either use `smt` followed by a subcommand or use a single command (composed of `smt`, dash, and the subcommand of choice). For example, it is possible to use either `smt mirror` or `smt-mirror`, both have the same meaning.

NOTE: Conflicting Commands

Depending on your `$PATH` environment variable, the SMT `smt` command (`/usr/sbin/smt`) may collide with the `smt` command from the `star` package (`/usr/bin/smt`). Either use the absolute path `/usr/sbin/smt`, create an alias, or set your `$PATH` accordingly.

Another solution is to always use the `smt-subcommand` syntax (connected with a minus sign) instead of `smt subcommand` (separated by a space).

smt-catalogs

The `smt-catalogs` (or `smt catalogs`) script can be used for listing all available catalogs and for enabling or disabling catalogs. The following options are available:

- `--enable-mirror` or `-e`
Enable catalog mirroring.
- `--enable-by-prod` or `-p`
Enable catalog mirroring by giving product data in the following format:
`Product[,Version[,Architecture[,Release]]]`.

`--disable-mirror` or `-d`
Disable catalog mirroring.

`--only-mirrorable` or `-m`
List only catalogs that can be mirrored.

`--only-enabled` or `-o`
List only enabled catalogs.

`--verbose` or `-v`
Show detailed catalog information.

smt-delete-registration

The `smt-delete-registration` command deletes one or more registrations from SMT and Novell Customer Center. It will deregister machines from the system. The following options are available:

`--guid ID` or `-g ID`
Deletes the machine with the guid *ID* from the system. This option can be used multiple times.

`--debug` or `-d`
Enables debugging mode.

smt-list-products

The `smt-list-products` script lists all software products in the SMT database. The following options are available:

`--used` or `-u`
Show only used products.

`--catstat` or `-c`
Show whether all catalogs needed for a product are locally mirrored.

smt-list-registrations

The `smt-list-registrations` script lists all registrations. There are no options available for this command.

smt-mirror

The `smt-mirror` command performs the mirroring procedure and downloads catalogs that are set to be mirrored.

The `smt-mirror` command can be run with the following options:

`--clean` or `-c`

Removes all files no longer mentioned in the metadata from the mirror. No mirroring occurs before cleanup.

`--debug` or `-d`

Enables the debugging mode.

`--deepverify`

Turns on verifying of all package checksums.

`--hardlink size`

Searches for duplicate files with a size greater than the size specified in kilobytes. Creates hard links for them.

`--directory path`

Defines the directory to work on. If you use this option, the default value configured in the `smt.conf` configuration file is ignored.

`--dbreplfile file`

Defines the path to the `*.xml` file to use as database replacement. Such a file can be created with the `sync-ncc` command. This option is only useful if the SMT database is not located on the same host as the machine this script should run on.

`--logfile file` or `--L file`

Specifies the path to a logfile.

smt-ncc-sync

The `smt-ncc-sync` or `smt ncc-sync` command gets data from the Novell Customer Center and updates the local SMT database. It can also save Novell Customer Center data to a directory instead of the SMT database, or read Novell Customer Center data from such a directory instead of downloading it from Novell Customer Center itself.

The `smt-ncc-sync` can be run with the following options:

`--fromdir directory`

Reads Novell Customer Center data from a directory instead of downloading it from Novell Customer Center.

`--todir directory`

Writes Novell Customer Center data to the specified directory without updating the SMT database.

`--createdbreplacementfile`

Creates a database replacement file for using `smt-mirror` without database.

`--logfile file` or `--L file`

Specifies the path to a log file.

`--debug`

Enables debugging mode.

smt-register

The `smt-register` or `smt register` command registers all currently unregistered clients at the Novell Customer Center. It also registers all clients whose data has changed since the last registration.

The following options are available:

`--logfile file` or `--L file`

Specifies the path to a log file.

`--debug`

Enables debugging mode.

smt-report

The `smt-report` or `smt report` command generates a subscription report based on local calculation or Novell Customer Center registrations.

The following options are available:

`--local`

Forces the creation of a report based on a local calculation without accessing Novell Customer Center data.

`--ncc`

Forces the creation of a report based on Novell Customer Center data.

`--nonccsync`

Disables synchronizing with Novell Customer Center before creating the report.

`--mail` or `-m`

Activates mailing the report to the addresses configured with the YaST SMT Configuration module and written in `/etc/smt.conf`. The report will be rendered as tables.

`--attach` or `-a`

Appends the report to the e-mails in CSV format. This option should only be used together with the `--mail` option.

`--quiet` or `-q`

Suppresses output to STDOUT and runs `smt-report` in quiet mode.

`--csv` or `-c`

The report will be exported to multiple files in CSV format. The first line of each *.csv file consists of the column names, the data starts on line two. The `--csv` parameter should only be used together with the `--file` parameter. If the specified filename contains `.csv` as extension, the report format will be CSV (as if the `--csv` parameter was used).

`--file` or `-F`

Exports the report to one or several files. By default, the report will be written to a single file rendered as tables. Optionally, the filename or whole path may be specified after the parameter: `--file filename`. If no filename is specified,

a default filename containing a timestamp is used. However, SMT will not check if the file or files already exist.

In CSV mode the report will be written to multiple files, therefore, the specified filename will expand to `[path/]filename-reportname.extension` for every report.

`--logfile filename` or `-L filename`
Specifies path to a logfile.

`--debug`
Enables debugging mode.

smt-setup-custom-catalogs

The `smt-setup-custom-catalogs` or `smt setup-custom-catalogs` script is a tool to set up custom catalogs (catalogs not present in NU) to be used with SMT. It can be used for adding a new catalog to the SMT database or to delete a catalog from the database. The script recognizes the following options:

`--productid`
ID of a product the catalog belongs to. If a catalog should belong to multiple products, use this option multiple times to assign catalog to all relevant products.

`--name`
The name of the custom catalog.

`--description`
The description of the custom catalog.

`--exturl`
The URL where this catalog can be mirrored from. Only HTTP and HTTPS protocols are supported (no directory, file, or FTP).

`--delete`
Removes a custom catalog with a given ID from the SMT database.

To set up a new catalog, use the following command:

```
smt-setup-custom-catalogs --productid Product_ID
--name Catalog_Name --exturl URL
```

For example:

```
smt-setup-custom-catalogs --productid 434  
--name My_Catalog --exturl http://my.domain.top/My_Catalog
```

To remove an already set catalog, use the following command:

```
smt-setup-custom-catalogs --delete Catalog_ID
```

For example:

```
smt-setup-custom-catalogs --delete 1cf336d819e8e5904f4d4b05ee081971a0cc8afc
```

6.1.2 rcsmt Init Script

The `rcsmt` script starts, restarts, or stops SMT services. If used without any subcommands, it returns a help text. The `rcsmt` script can be used with the following subcommands:

```
rcsmt start
```

Starts the SMT services.

```
rcsmt stop
```

Stops the SMT services.

```
rcsmt status
```

Checks the status of the SMT services. Checks whether httpd, MySQL, and cron are running.

```
rcsmt restart
```

Restarts the SMT services.

```
rcsmt try-restart
```

Checks whether the SMT is enabled and if so, restarts the SMT services.

SMT services can also be enabled or disabled using the YaST SMT Configuration module.

6.2 SMT Configuration Files

The SMT has a main configuration file: `/etc/smt.conf`. Most of the options in this file can be set using YaST SMT module (see [Chapter 2, *Configuring SMT Using YaST*](#) (page 5)). Another important configuration file is `/etc/smt.d/smt-cron.conf`, which contains parameters for commands launched as SMT scheduled jobs.

6.2.1 `/etc/smt.conf`

The `/etc/smt.conf` file has several sections. The `[NU]` section contains the NU credentials and URL. The `[DB]` section contains the configuration of the MySQL database SMT uses. The `[LOCAL]` section includes other configuration data. The `[REPORT]` section contains the configuration of SMT reports. In the `YOU9-*` sections, the configuration for the `smt-mirror-sle9` command can be found.

WARNING

The `/etc/smt.conf` contains passwords in clear text and its default permissions (640, root, wwwrun) make its content easily accessible with scripts running on the Apache server. Be careful with running other software on the SMT Apache server. The best policy is to use this server only for SMT.

`[NU]` Section of `/etc/smt.conf`

The following options are available in the `[NU]` section:

`NUUrl`

URL of the NU service. In most cases, it should contain the `https://nu.novell.com/` URL.

`NUUser`

`NUUser` should contain the username for NU service. For information about getting mirroring credentials, see [Section 3.1, “Getting Mirror Credentials”](#) (page 13). This value can be set using YaST SMT Configuration module.

NUPass

NUPass is the password for the user defined in NUUser. For information about getting mirroring credentials, see [Section 3.1, “Getting Mirror Credentials”](#) (page 13) This value can be set using the YaST SMT Configuration module.

[DB] Section of /etc/smt.conf

The three options defined in the [DB] section are used for configuring the database SMT uses. Currently, only MySQL is supported by SMT.

config

The first parameter of the DBI->connect Perl method used for connection to the MySQL database. The value should be in the form

```
dbi:mysql:database=smt;host=localhost
```

where *smt* is the name of the database and *localhost* the hostname of the database server.

user

The user for the database. The default value is *smt*.

pass

The password for the database user. The password can be set using the YaST SMT Configuration module.

[LOCAL] Section of /etc/smt.conf

The following options are available in the [LOCAL] section:

url

The base URL of the SMT server which is used to construct URLs of the catalogs available on the server. This value should be set by YaST automatically during installation. The format of this option should be:

```
https://server.domain.tld/.
```

The URL can be changed manually for various reasons. For example, the administrator may choose to use the `http://` scheme instead of `https://` for performance reasons. Another reason may be using an alias (configured using CNAME

in DNS) instead of the hostname of the server, for example

`http://smt.domain.tld/` instead of `http://server1.domain.tld/`.

`nccEmail`

E-mail address used for registration at the Novell Customer Center. This value can be set using the YaST SMT Configuration module.

`MirrorTo`

Determines the path to mirror to.

`MirrorAll`

If the `MirrorAll` option is set to `true`, the `smt-ncc-sync` script will set all catalogs that can be mirrored to be mirrored (`DOMIRROR` flag).

`MirrorSRC`

If the `MirrorSRC` option is set to `false`, no source RPM packages are mirrored.

`forwardRegistration`

Determines whether the clients registered at SMT should be registered at Novell Customer Center, too. If the `forwardRegistration` option is set to `true`, client registrations will be forwarded to Novell Customer Center. If the `forwardRegistration` option is set to `false`, no client registrations will be sent to Novell Customer Center.

`rndRegister`

Specifies a delay in seconds before registration of clients at Novell Customer Center. The value is a random number between 0 and 450, generated by the YaST SMT Configuration module. The purpose of this random delay is to prevent a high load on the Novell Customer Center server that would occur if all `smt-register` cronjobs connected at the same time.

`HTTPProxy`

If you do not want to use global proxy settings, specify the proxy to be used for HTTP connection here. Use the following form:

`http://proxy.example.com:3128`.

If the proxy settings are not configured in `/etc/smt.conf`, the global proxy settings configured in `/etc/sysconfig/proxy` are used. The global proxy settings can be configured using the YaST Proxy module.

The `HTTPProxy` also applies to the `smt-mirror-sle9` script.

HTTPSProxy

If you do not want to use global proxy settings, specify the proxy to be used for HTTPS connection here. Use the form: `http://proxy.example.com:3128`.

If the proxy settings are not configured in `/etc/smt.conf`, the global proxy settings configured in `/etc/syconfig/proxy` are used. The global proxy settings can be configured using the YaST Proxy module.

The HTTPSProxy also applies to the `smt-mirror-sle9` script.

ProxyUser

If your proxy requires authentication, specify a username and password here, using the `username:password` format.

If the proxy settings are not configured in `/etc/smt.conf`, the global proxy settings configured in `/etc/syconfig/proxy` are used. The global proxy settings can be configured using the YaST Proxy module.

Neither the ProxyUser value nor the global proxy authentication settings apply to the `smt-mirror-sle9` script. For user authentication in `smt-mirror-sle9` write the following in the `/root/.wgetrc` file: `proxy_user=username`
`proxy_password=password`.

[REPORT] Section of /etc/smt.conf

The following options are available in the [REPORT] section:

reportEmail

A comma separated list of e-mail addresses to send SMT status reports to. This list can be set using YaST SMT Configuration Module.

reportEmailFrom

From field of report e-mails. If not set, the default `root@hostname.domainname` will be used.

mailServer

Relay mail server. If empty, e-mails are sent directly.

mailServerPort

Port of the relay mail server set in mailServer.

`mailServerUser`

User name for authentication to the mail server set in `mailServer`.

`mailServerPassword`

Password for authentication to the mail server set in `mailServer`.

smt-mirror-sle9 Sections of `/etc/smt.conf`

Each product to be mirrored by the `smt-mirror-sle9` command has a separate predefined `YOU9-*` section in the `/etc/smt.conf` configuration file. `/etc/smt.conf` is not configured via the SMT database like the `smt-mirror` command, all configuration is contained in `/etc/smt.conf`.

`mirror_prod`

A product to be mirrored, for example `Novell-Linux-Desktop`.

`mirror_archs`

Comma separated list of architectures to be mirrored, for example `i386,x86_64`.

Remove any architectures that do not need to be mirrored.

`mirror_version`

The version of the product to be mirrored, for example `9`.

`mirror`

If you want to mirror this product, set `mirror` to `true`.

`credentials`

If you want to mirror this product, provide credentials in the `user:password` format.

Example `/etc/smt.conf`

Example 6.1 *config/smt.conf*

```
[NU]
NUUrl = https://nu.novell.com/
NUUser = exampleuser
NUPass = examplepassword

[DB]
config = dbi:mysql:database=smt;host=localhost
```

```

user = smt
pass = examplepassword

[LOCAL]
# Default should be http://server.domain.top/
url = http://smt.example.com/
# This e-mail address is used for registration at NCC
nccEmail = exampleuser@example.com
MirrorTo = /srv/www/htdocs
MirrorAll = false
MirrorSRC = true
forwardRegistration = true
rndRegister = 91
# specify proxy settings here, if you do not want to use the global proxy
settings
#
# specify which proxy you want to use for HTTP connection
# in the form http://proxy.example.com:3128
HTTPProxy=
# specify which proxy you want to use for HTTPS connection
# in the form http://proxy.example.com:3128
HTTPSProxy=
# specify username and password if your proxy requires authentication
# in the form username:password
ProxyUser=

[REPORT]
# comma separated list of e-mail addresses where the status reports will be
sent to
reportEmail =
# from field of report mails - if empty it defaults to
"root@<hostname>.<domainname>"
reportEmailFrom =
# relay mail server - leave empty if mail should be sent directly
mailServer =
mailServerPort =
# mail server authentication - leave empty if not required
mailServerUser =
mailServerPassword =

[YOU9-Novell-Linux-Desktop]
mirror_prod = Novell-Linux-Desktop
mirror_archs = i386,x86_64
mirror_version = 9
mirror = false
credentials =

[YOU9-Novell-Linux-Desktop-SDK]
mirror_prod = Novell-Linux-Desktop-SDK
mirror_archs = i386,x86_64
mirror_version = 9
mirror = false
credentials =

```

```

[YOU9-Novell-Linux-POS]
mirror_prod = Novell-Linux-POS
mirror_archs = i386
mirror_version = 9
mirror = false
credentials =

[YOU9-Open-Enterprise-Server]
mirror_prod = Open-Enterprise-Server
mirror_archs = i386
mirror_version = 9
mirror = false
credentials =

[YOU9-SLES-SDK]
mirror_prod = SLES-SDK
mirror_archs = i386,ia64,ppc,s390,s390x,x86_64
mirror_version = 9
mirror = false
credentials =

[YOU9-SUSE-CORE]
mirror_prod = SUSE-CORE
mirror_archs = i386,ia64,ppc,s390,s390x,x86_64
mirror_version = 9
mirror = false
credentials =

[YOU9-SUSE-SLES]
mirror_prod = SUSE-SLES
mirror_archs = i386,ia64,ppc,s390,s390x,x86_64
mirror_version = 9
mirror = false
credentials =

```

6.2.2 /etc/smt.d/smt-cron.conf

The `/etc/smt.d/smt-cron.conf` configuration file contains options of the SMT commands launched as SMT scheduled jobs set using YaST (see [Section 2.5, “Setting the SMT Job Schedule with YaST”](#) (page 10)). Cron is used to launch these scheduled jobs. The crontable is located in the `/etc/cron.d/novell.com-smt` file.

NCC_SYNC_PARAMS

Contains parameters of the `smt ncc-sync` command, if called as a part of an SMT scheduled job via cron. The default value is `"-L /var/log/smt-ncc-sync.log"`.

MIRROR_PARAMS

Contains parameters of the `smt mirror` command, if called as a part of an SMT scheduled job via cron. The default value is `"-L /var/log/smt-mirror.log"`.

REGISTER_PARAMS

Contains parameters of the `smt register` command, if called as a part of an SMT scheduled job via cron. The default value is `"-r -L /var/log/smt-register.log"`.

REPORT_PARAMS

Contains parameters of the `smt report` command, if called as a part of an SMT scheduled job via cron. The default value is `"--mail --attach -L /var/log/smt-report.log"`.

6.3 Server Certificates

For communication between the SMT server and client machines, the encrypted HTTPS protocol is used, requiring a server certificate. If the certificate is not available, or if clients are not configured to use the certificate, the communication between server and clients will fail.

Every client must be able to verify the server certificate by trusting the CA (certificate authority) certificate which signed the server certificate. Therefore, the SMT server provides a copy of the CA at `/srv/www/htdocs/smt.crt`. This CA can be downloaded from every client via the URL `http://FQDN/smt.crt`. The copy is created when YaST writes the SMT configuration. Whenever SMT is started with the `rcsmt init` script, it checks the certificate. If a new CA certificate exists, it is copied again. Therefore, whenever the CA certificate is changed, restart SMT using the `rcsmt restart` command.

When the YaST SMT module applies configuration changes, it checks for the existence of the common server certificate. If the certificate does not exist, YaST asks whether the certificate should be created. If the user confirms, the YaST CA Management module is started.

6.3.1 Certificate Expiration

The common server certificate SMT uses is valid for one year. After that time, a new certificate is needed. Either generate a new certificate using YaST CA Management module or import a new certificate using the YaST Common Server Certificate module. Both options are described in the following sections.

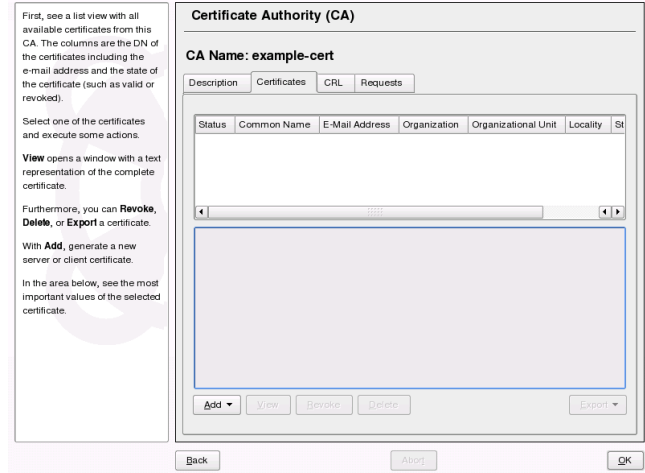
As long as the same CA certificate is used, there is no need to update certificates at the client machines. The generated CA certificate is valid for 10 years.

6.3.2 Creating a New Common Server Certificate

To create a new common server certificate with YaST, proceed as follows:

- 1 Start YaST and select *Security and Users > CA Management*. Alternatively, start the YaST CA Management module from a command line by entering `yast2 ca_mgm as root`.
- 2 Select the required CA and click *Enter CA*.
- 3 Enter the password if entering a CA for the first time. YaST displays the CA key information in the *Description* tab.
- 4 Click the *Certificates* tab (see [Figure 6.1, “Certificates of a CA”](#) (page 46)) and select *Add > Add Server Certificate*.

Figure 6.1 Certificates of a CA



- 5 Enter the fully qualified domain name of the server as *Common Name*. Add a valid e-mail address of the server administrator. Other fields, as *Organization*, *Organizational Unit*, *Locality*, and *State* are optional. Click *Next* to proceed.

IMPORTANT: Hostname in Server Certificate

The server certificate must contain the correct hostname. If the client requests server `https://some.hostname/`, then `some.hostname` must be part of the certificate. The hostname must either be used as the *Common Name*, see [Step 5](#) (page 46), or as the *Subject Alternative Name*, see [Step 7](#) (page 46): `DNS:some.hostname` and/or `IP:<ipaddress>`.

- 6 Enter a *Password* for the private key of the certificate and reenter it in the next field to verify it.
- 7 If you want to define a *Subject Alternative Name*, click *Advanced Options*, select *Subject Alternative Name* from the list and click *Add* to enter the details for the *Subject Alternative Name*.

- 8 If you want to keep the default values for the other options, like *Key Length* and *Valid Period*, click *Next*. An overview of the certificate to be created is shown.
- 9 Click *Create* to generate the certificate.
- 10 To export the new certificate as the common server certificate, select it in the *Certificates* tab and select *Export > Export as Common Server Certificate*.
- 11 After having created a new certificate, restart SMT using the `rcsmt restart` command. Restarting SMT ensures that the new certificate is copied from `/etc/ssl/certs/YaST-CA.pem` to `/srv/www/htdocs/smt.crt`, the copy SMT uses. Restarting SMT also restarts the Web server.

For detailed information about managing certification and further usage of the YaST CA Management module and the Common Server Certificate module, refer to the *Installation and Administration*.

6.3.3 Importing a Common Server Certificate

You can import an own common server certificate from a file. The certificate to be imported has to be in the PKCS12 format with CA chain. Common server certificates can be imported with the YaST Common Server Certificate module.

To import an own certificate with YaST, proceed as follows:

- 1 Start YaST and select *Security and Users > Common Server Certificate*. Alternatively, start the YaST Common Server Certificate module from the command line by entering `yast2 common_cert` as root.

The description of the currently used common server certificate is shown in the dialog that opens.
- 2 Click *Import* and select the file containing the certificate to be imported. Specify the certificate password in the *Password* field.
- 3 Press *Next*. If the certificate is successfully imported, close YaST with *Finish*.

- 4 After having created a new certificate, restart SMT using the `rcsmt restart` command. Restarting SMT ensures that the new certificate is copied from `/etc/ssl/certs/YaST-CA.pem` to `/srv/www/htdocs/smt.crt`, the copy SMT uses. Restarting SMT also restarts the Web server.

6.3.4 Synchronizing Time Between SMT Server and Clients

There is no need for a precise synchronization of time between the SMT server and clients. However, each server certificate has a validity period and if the client happens to be set to a time outside of this period, the certificate validation on the client side fails.

Therefore, it is advisable to keep the time on the server and clients synchronized. You can easily synchronize time using NTP (network time protocol). Use `yast2 ntp-client` to configure an NTP client. You will find detailed information about NTP in *Installation and Administration*.

Configuring Clients to Use SMT

Any machine running SUSE Linux Enterprise SP2 or later can be configured to register against SMT and download software updates from there instead of communicating directly with the Novell Customer Center and the NU servers.

If your network includes an SMT server to provide a local update source, you need to equip the client with the server's URL. As client and server communicate via the HTTPS protocol during registration, you also need to make sure the client trusts the server's certificate. In case you set up your SMT server to use the default server certificate, the CA certificate will be available on the SMT server at `http://FQDN/smt.crt`. In this case you do not have to care about the certificate: The registration process will automatically download the CA certificate from there, unless configured otherwise. You have to enter a path to the server's CA certificate if the certificate was issued by an external certificate authority.

NOTE: Registering Against *.novell.com Subdomain

If you try to register against any *.novell.com subdomain, the certificate will not be downloaded during registration for security reasons, and certificate handling will not be done. In such a case, use a different domain name or a plain IP address.

There are several ways to provide this information and to configure the client machine to use SMT. The first way is to provide the needed information via kernel parameters at boot time. The second way is to configure clients using an AutoYaST profile. There is also a script, `clientSetup4SMT.sh`, which can be run on a client to make it

register against a specified SMT server. These methods are described in the following sections:

7.1 Using Kernel Parameters to Access an SMT Server

Any client can be configured to use SMT by providing the following kernel parameters during machine boot: `regurl` and `regcert`. The first parameter is mandatory, the latter is optional.

`regurl`

URL of the SMT server. The URL needs to be in the following format:
`https://FQDN/center/regsvc/` with *FQDN* being the fully qualified hostname of the SMT server. It must be identical to the FQDN of the server certificate used on the SMT server. Example:

```
regurl=https://smt.example.com/center/regsvc/
```

`regcert`

Location of the SMT server's CA certificate. Specify one of the following locations:

URL

Remote location (http, https or ftp) from which the certificate can be downloaded. Example:

```
regcert=http://smt.example.com/smt.crt
```

Floppy

Specifies a location on a floppy. The floppy has to be inserted at boot time—you will not be prompted to insert it if it is missing. The value has to start with the string `floppy`, followed by the path to the certificate. Example:

```
regcert=floppy/smt/smt-ca.crt
```

Local Path

Absolute path to the certificate on the local machine. Example:

```
regcert=/data/inst/smt/smt-ca.crt
```

Interactive

Use `ask` to open a pop-up menu during installation where you can specify the path to the certificate. Do not use this option with AutoYaST. Example:

```
regcert=ask
```

Deactivate Certificate Installation

Use `done` if either the certificate will be installed by an add-on product, or if you are using a certificate issued by an official certificate authority. Example:

```
regcert=done
```

WARNING: Beware of Typing Errors

Make sure the values you enter are correct. If `regurl` has not been specified correctly, the registration of the update source will fail.

If a wrong value for `regcert` has been entered, you will be prompted for a local path to the certificate. In case `regcert` is not specified at all, it will default to `http://FQDN/smt.crt` with `FQDN` being the name of the SMT server.

WARNING: Change of SMT Server Certificate

If the SMT server gets a new certificate from a new and untrusted CA, the clients need to fetch the new CA certificate file. This is done automatically with the registration process but only if a URL was used at installation time to fetch the certificate, or if the `regcert` parameter was omitted and thus, the default URL is used. If the certificate was loaded using any other method, such as floppy or local path, the CA certificate will not be updated.

7.2 Configuring Clients Using AutoYaST Profile

Clients can be configured to register with SMT server via AutoYaST profile. For general information about creating AutoYaST profiles and preparing automatic installation, refer to *Installation and Administration*. In this section, only SMT specific configuration is described.

To configure SMT specific data using AutoYaST, follow these steps:

- 1 As `root`, start YaST and select *Miscellaneous > Autoinstallation* to start the graphical AutoYaST front-end.

From a command line, you can start the graphical AutoYaST front-end with the `yast2 autoyast` command.

- 2 Open an existing profile using *File > Open*, create a profile based on the current system's configuration using *Tools > Create Reference Profile*, or just work with an empty profile.
- 3 Select *Software > Novell Customer Center Configuration*. An overview of the current configuration is shown.
- 4 Click *Configure*.
- 5 Set the URL of the *SMT Server* and, optionally, the location of the *SMT Certificate*. The possible values are the same as for the kernel parameters `regurl` and `regcert` (see [Section 7.1, “Using Kernel Parameters to Access an SMT Server”](#) (page 50)). The only exception is, that the `ask` value for `regcert` does not work in AutoYaST, because it requires user interaction. If using it, the registration process will be skipped.
- 6 Perform all other configuration needed for the systems to be deployed.
- 7 Select *File > Save As* and enter a filename for the profile, such as `autoinst.xml`.

7.3 Configuring Clients Using the `clientSetup4SMT.sh` Script

The `/usr/share/doc/packages/smt/clientSetup4SMT.sh` script is provided with SMT. This script allows to configure a client machine to use a SMT server or to reconfigure it to use a different SMT server.

To configure a client machine to use SMT with the `clientSetup4SMT.sh` script, follow these steps:

- 1 Copy the `/usr/share/doc/packages/smt/clientSetup4SMT.sh` script at your SMT server to the client machine.
- 2 As `root`, execute the script on the client machine. The script can be executed in two ways. In the first case, the script name is followed by the registration URL:
`./clientSetup4SMT.sh registration_URL`, for example,
`./clientSetup4SMT.sh https://smt.example.com/center/regsvc`. In the second case, the script name is followed by the `--host` option followed by hostname of the SMT server: `./clientSetup4SMT.sh --host server_hostname`, for example, `./clientSetup4SMT.sh --host smt.example.com`.
- 3 The script downloads the server's CA certificate. Accept it by pressing `y`.
- 4 The script performs all necessary modifications on the client. However, the registration itself is not performed by the script.
- 5 Perform a registration by executing `suse_register` or running `yast2 inst_suse_register` module on the client.

The `clientSetup4SMT.sh` script works with SUSE Linux Enterprise 10 SP1 and SP2 systems.

7.4 Registering Clients Against SMT Test Environment

To configure a client to register against the test environment instead the production environment, modify `/etc/suseRegister.conf` on the client machine by setting:

```
register = command=register&testenv=1
```

For more information about using SMT with a test environment, see [Section 3.4, “Using Test Environment”](#) (page 20).

